

# Project Martha Community Meeting

Thursday 11 March 2021

The following is a record of the Project Martha community meeting held at 5.30pm on 11 March 2021. Where possible, we have tried to capture individual contributions at the meeting but these do not purport to be verbatim notes.

## Welcome

Tim Clarke said: My name is Tim Clarke and Louise and I work together as Collaborative Solutions. Our role is to direct traffic during the meeting and make sure it is facilitated in a way that people can follow what is presented, can ask questions and have them answered. If you have a question please give us your name first and Lou will note that in the minutes so we can attribute the answer in the right context. We try and ensure questions are answered at the time but if that is not possible we will note and answer them in the minutes, or address them at the next meeting (in six months). We are recording the meeting for accuracy of the minutes and there will also be a recording available if you or someone who did not come to the meeting wants to listen. Contact Donna on the Oceana 0800 number for a recording or a copy of the written minutes. Did you get the last set of minutes? Were they okay? *(Several people said yes.)*

*(Everyone was asked to introduce themselves, see attendance list at the end of the minutes).*

Tim said: There are a couple of new Oceana team representatives – David (Townsend) and Josh (Smith).

Dave Townsend said: The guys you may know are Charlie and Joll who've been around before. I've been in Waihi since 2006 and always working in the underground through Favona Trio. Just recently Charlie and Joll moved on. At the moment I am in Joll's shoes, Charlie's shoes and my shoes. This is my first meeting so I'll see how I go. If you have any questions just yell out.

Josh Smith said: I joined the community team about three weeks ago with Kyle, Donna and Phil. They've all been very patient with my questions. I was in Brisbane last, where I was working for the Department of Education. Home for me was originally out in Hikutaia, by Paeroa. I grew up there and then my wife and I moved to Australia seven years ago. We did a big loop, came back here and ended up working half an hour from where I grew up.

## Purpose of meeting

### Project Martha

#### Purpose of meeting

Under Condition 99 of the Project Martha consents we are required to hold community meetings quarterly during the first year of mining activities provided for under this consent, and six-monthly thereafter.

- a) Present information from the preceding six months on the following:
  - i. A description of the mining activities provided for under this consent that have been undertaken;
  - ii. A summary of relevant environmental results;
  - iii. Progress with the IRP property purchase programme;
  - iv. Progress on any matters raised at the preceding meeting;
- b) Receive feedback from the meeting attendees on the consent holder's activities and progress on the matters listed above.

Donna Fisher said: Welcome along everyone. As you know the consent conditions require us, in the first year, to have meetings every three months. We've passed that year now so these meetings will now be every six months. We won't have another meeting after this one for six months.

Jane Murray said: Just out of interest, I didn't know these meetings were happening until I started talking to you about what was going on at home and I've never heard them advertised, except for today I heard it on the radio once. A lot of people I've spoken to don't know that these meetings have been happening.

Donna said: These meetings are, as I said, consent requirements for the Correnso Project in the east end, the underground project that's been going on. The meeting we had at 3.30pm was for Correnso and those residents were advised in the newsletter that they get every month and they're notified of the times and dates of the meetings because it's focused on that project area. Project Martha is focused on those people living in the Project Martha area so they get a (separate) newsletter as well and that gives them the time and date of their meeting, which is this one now. Anybody else living outside of those project areas doesn't get a newsletter.

Jane said: What radius do you class as the area?

Donna said: The east end is basically from the netball courts, east of there, so the whole of the east end. Project Martha has its own area which is half way down from the rugby club, under the rugby club to Mueller Street and up in behind the main street.

Jane said: And all around the back here?

Donna said: No, the proposed Project Quattro is that side of town and is where you may be affected.

Tim said: If that project goes ahead then Jane would be on a list and notified of meetings around Quattro?

Donna said: If that is what's required in the consent conditions, yes.

Erich Schmidt said: That is not really correct. Paragraph 99 says, "Open to the public".

Donna said: Yes, the public can come.

Erich said: Hang on, once I got told, "You are not welcome there".

Donna said: You are welcome Erich.

Erich said: Yeah I know. "Open to the public" so you should advertise this somewhere else.

Donna said: We do put it on our Facebook page.

Erich said: Who's got Facebook? I don't have a Facebook page. It should be in the newspaper.

Donna said: That's a fair comment. We'll take that on-board Erich and feed that back to the powers that be.

Glenis Gentil said: I've had the same comments as well from various people who don't know these meetings happen. They thought that they were public meetings but they felt like they're very targeted just at specific parts of the community and made to feel unwelcome.

Tim said: Glenis, are those people within the Martha Project area or Correnso Project area? Or just general?

Glenis said: Various areas.

Tim said: From my perspective, the thing we want to try and avoid is to get half way through a meeting and have people rolling their eyeballs because it's about stuff that doesn't directly affect them. I don't know whether that's a valid concern or not. What do you think?

Glenis said: Well, couldn't they just leave?

Tim said: Potentially they could, yes.

Robert said: I never ever knew these meetings existed until 9 o'clock this morning when somebody put something on the community page of Facebook. I'm not in either of the areas that have projects under them at the moment but I'm impacted by both projects. I've got Firth Concrete down the road delivering concrete to the underground and it goes past my place several times a day. We've got SCS down the road where all your core samples go to, so I've got traffic going past my place every day with mining stuff. I just want to know more about what's happening. I feel like a mushroom being kept in the dark. The only reason I knew about this meeting, like I said, was that it popped up on Facebook at 9 o'clock this morning.

Raelene Beadle said: When you say up there, "Under Condition 99 of the Project Martha consents we are required to hold community meetings", is that community the people who live in the zones or is it actually Waihi community and surrounding districts? Because it impacts a lot of people, not just in Waihi.

Donna said: Those are fair enough comments and I'm going to take them back.

Raelene said: So, what will happen about that then?

Donna said: I don't know. We'll start having more meetings about the proposed projects that are coming up, community meetings. We've got a slide on one that's coming up shortly. We've also opened a project office in the main street in town that's open every day between 10am and 2pm for people to come in and view those proposed projects.

Tim said: Donna, I'm wondering if what we do is, because you've said you'll take it back and have a conversation about the best way of addressing it, maybe we make it one of those things that Lou notes in the minutes as a "come back to"?

Donna said: Yes, definitely. Thank you, that's good feedback.

*Post-meeting answer: Oceana Gold advises that notification for the Correnso and Project Martha community meetings will be provided in our updates in the local paper, OGC Mining Matters, the Pit Rim updates and our Facebook page.*

## Outline

### Project Martha

#### Outline

- ▶ **MINING UPDATE**
- ▶ **ENVIRONMENT**
- ▶ **SOCIAL/COMMUNITY**
- ▶ **PROJECT QUATTRO AND WHAREKIRAUPONGA UPDATES**

Donna said: This is an agenda. Dave Townsend is going to present a couple of slides on a mining update for Project Martha, Russell's going to present some environmental slides, there are a couple of social and community slides and then Kyle will have a quick chat about Project Quattro and Wharekirauponga, the workshop that's coming up and a couple of other things.

## Points from last meeting

### Points from last meeting:

- ▶ Description of Mining Process
  - » To follow
- ▶ Movement and Slips – North Wall
  - » To follow
- ▶ Notification of Blasts
  - » To follow
- ▶ Confirm Depth of Stope
- ▶ Timeframe of Stopping Works
- ▶ Housing Insurance
- ▶ Property Purchases by OceanaGold
- ▶ Alternating Meeting Times
- ▶ Date of Next Meeting

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INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Donna said: There are some points from the last meeting that were brought up and we're going to cover those off throughout this meeting.

## Mining update



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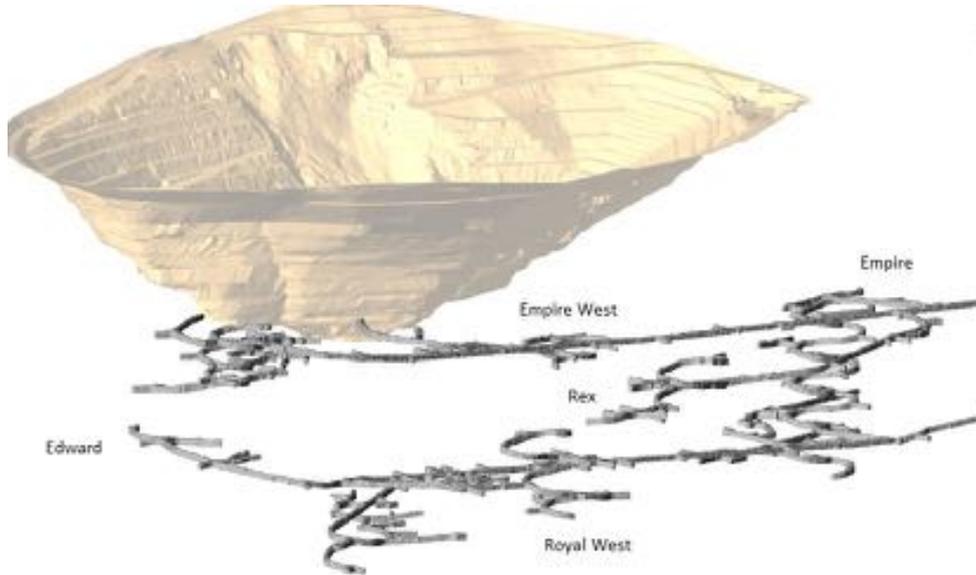
INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Dave said: Welcome guys. I'm Dave. I've been in Waihi since 2006 when I moved over from Australia to start the Martha Project, to work in the underground technical team. My team and I pretty much look after anything technical underground – mine design, ventilation, geotechnical drilling and all that sort of stuff. This is the first meeting I've done so if you've got extra questions that I don't cover just yell out as I go through. In general, this is where we are at the moment, the current pit. The yellow is the tunnels we've already created

since the start of the project. The green is the ones we're going to do this month. A brief overview of where we're at is that we're only developing MUG (Martha Underground) at the moment. To get the gold out, the bulk of the gold, we have to do the production blasts. At the moment we're just doing tunnels. The green tunnels are the ones we're mining at the moment and most of the focus is down the southern end, which we call Edward and Rex, underneath the rugby grounds. The red is the first production blast that we've taken out of MUG. Production is where we put the two tunnels in and then we extract the rock in between that's got the gold in it. This first stope happened last month, in February we took the first one out.

## Project Martha as of March 2021



Dave said: This is the same thing, but a different view. This is an isometric view of the North Wall and the pit with the slip and it gives you a perspective of where we are. There are two main tunnels – one at the top and one at the bottom that we used for access. Essentially we just create spirals between them to join them up and that gives us our main access into the ore bodies. They are mainly used for truck movements, haulage of ground and for ventilation purposes.

## Project Rex



Dave said: This is a plan view of Project Rex showing where the ore body is at the moment. It extends right down to Mueller Street and about two-thirds up the rugby grounds. In plan view that's the area it covers. Most of the decline spiral is in this area and we come out and access the ore body. If I go back a little bit (to PowerPoint slide 5), to give you some perspective, this is Rex. We've got the green tunnels coming out and the ore sits out through here.

Heather Ross said: Is Rex under the rugby field?

Dave said: Yes, this is the rugby field right here and the church is on the corner.

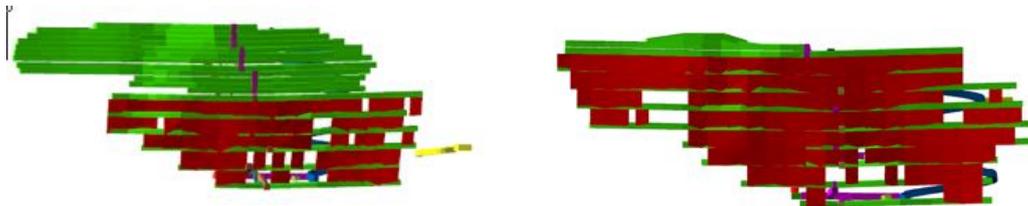
Raelene said: Excuse me, that photo before (Project Rex plan view) – do you have a copy of that for us to take home?

Donna said: No, but I can get you a copy Raelene.

*Post-meeting answer: A copy of the Project Rex plan view was delivered to Raelene's letterbox.*

## Project Rex – What You Need to Know

Mine design change from Over Cut and Fill to Avoca Stopping



- Decreased time to mine – 5yrs down to around 3yrs
- Fewer blast events
- Same vibration constraints
- First stope planned for **August 21**

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INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Dave said: When you look at Rex sideways, so if I stood over on Kenny Street and looked at Rex from underground, that's what it looks like. This is the first meeting I've been to but there have been lots of questions backwards and forwards about Rex, the way we mine it and some timeframes about how long it's going to take to mine it. Originally Rex looked like this (left-hand diagram on slide 8 above), we basically use the Avoca stopping method at the bottom and we'll talk about that process ...

This is the same bit of ore that we want to extract with two different mine designs put around them. The bottom part where it's red is called stopping, that's when we put the green lines in that are the tunnels, we stack them up and then we blast the bit of rock between the two tunnels and take that out.

The vein in Rex is only about 3m to 4m wide, and that's the only bit of the rock that we want. We mine along them, we create these tunnels, blast out the rock between the bottom and the top tunnel and make a hole about 10m to 15m long if it's good ground, sometimes a little bit more. Typically we call that a panel.

We take that out, take the gold out of the rock and then put waste rock back in. It happens pretty quick. We take this one out, fill it, do it again and keep coming back towards the centre. Once we've got this back a bit we work on top of the waste rock we just put in there, then we take the next lift up and you end up with a V front coming back, because they come back in staggered fronts. (When we originally designed Rex) at the top of Rex we planned to use a mining method called over-hand cut and fill. We put this drive in the bottom, put the tunnel in and then using a loader we jam waste rock back in and fill it back up again. We then come back to the start and ramp up on top of the waste. Essentially this takes the gold out but it's a much slower process. The reason it was designed like that was to minimise vibration. You would have seen in the

vibration consents, and Russell will talk about that a little, that when I do production blasts I can only have an average of those blasts at 3mm/second or less. When I do development I can only have 2mm/second or less, so it gives you the same level of vibration but this takes me much longer to do.

Since that original design was made, we now know more about Rex and the ground around it. We've already started mining those tunnels like you saw before and we've noticed that the vibration is a little bit less than we expected. So, there's an opportunity to design Rex this way (diagram on the right-hand side of the PowerPoint above) and do less of this (diagram on the left-hand side of the PowerPoint above). In terms of the effects you'll get, it drops the time to extract this from five years down to about three years.

These tunnels (left-hand diagram) are only 5m x 5m and I can only advance them about 2m every day so it takes a long time to do it and it takes a long time to fill them with waste. So, using the method on the right-hand side speeds it up and there'll be fewer blast events.

Raelene said: For the vibrations, are you saying that in the green zone they're less than what they would be for the production blasts in the red area? Is that correct?

Dave said: When I do a tunnel, like this tunnel here, to create access to the ore body the average vibration is only allowed to be 2mm/second. If I enlarge that tunnel and make it bigger it's now considered a "production blast" and I can have an average of 3mm/second.

Raelene said: Does that mean that there'll be less blasts but they will be bigger than they were going to be?

Dave said: No. There will be less of them, I don't have to do as many, and I still have to average 3mm/second.

Raelene said: Yes, but you don't always go to 3mm/second do you?

Dave said: It's the average. I can only ever go to a maximum of 5mm/second, that's it.

Raelene said: How often do you go to 3mm/second?

Tim said: Pause please, let's wait until Russell talks about vibration.

Dave said: If Russell doesn't answer your question we'll come back then.

Raelene said: My other question is regarding the five years down to three years. We were told at the last meeting that it was three years. So, where does the five years come from?

Tim said: At the last meeting was there was a lack of clarity around the timeframes. Some people were saying seven, some people were saying five, some people were saying three and so this is the answer.

Raelene said: So it is around three years then?

Dave said: It's a bit tricky. We're still drilling. I can't go any higher because the consent conditions say that's the highest I'm allowed to mine. We know there's no more gold down here because we've drilled it and there's nothing. I can't go this way any further because that's the consent boundary of Martha. We're still drilling out here, back towards the rugby club. It's not looking that promising but there's a little bit there.

Liz Cannell said: I'm not really sure whether I've got this right. You're saying there will be blasting, the ore will be extracted and that is taken out to a place for gold extraction?

Dave said: It goes to the mill, yes.

Liz said: Then you say there's going to be waste coming back to fill it. Where does that waste come from?

Dave said: It's waste that we generate from doing all these tunnels you can see. 99% of that is waste. We bring it up and we stockpile it where you can't see it. Just next to the mill there's a big stockpile which we call the polishing pond stockpile. It stays on the surface then when we need it we take it back underground.

Glenis said: You talked about it being preferable to do the mining like the diagram on the right but that you were constrained in having to do it as it is on the left.

Dave said: Previously, yes.

Glenis said: Why is that? Is that because of the area you're in and the previous, older mines, being there?

Tim said: Dave (to make sure we've understood), you thought you were going to have to use the process on the left-hand side because you were worried about vibration? Now you think you can do the process on the right-hand side (which is quicker), because you're not having the vibration issues you anticipated?

Dave said: Yes.

Glenis said: So, it has nothing to do with the fact that it's closer to the older mine workings?

Dave said: No, it's purely vibration.

Jane said: At the last meeting they said they were backfilling with concrete. Where does the concrete come in?

Dave said: That will be a different mining area. We are backfilling some areas with concrete but they're particularly in this area which we call Empire and Empire West. The concrete we use to fill the old stopes, the old voids, is if we want to mine back through them or mine next to them. We don't do any of that in Rex. Rex is virgin ground. There's one old tunnel that goes through Rex but that's it. So, we do it, but not in Rex.

Tim said: Again, can I check my understanding of that with you Dave? If you come across a place where there's been mining, it might be 100 years or 20 years ago, and you want to mine close to it then the first thing you have to do is stabilise the ground and you use a concrete-based product to stabilise the ground? So, you concrete it and then you start mining beside it?

Dave said: Yes, correct.

Liz said: There was some kind of dispute as to how deep you were going to go, was it 300m? Then there was a comment about it being less than that? Do we have a definite idea of how far down?

Dave said: We do know it, but I don't have the numbers on me so we will have to put it in the minutes.

*Post-meeting answer: Current mining ranges from 185m to 410m below surface.*

Raelene said: I've just got a quick question about the pit picture (PowerPoint slide 5). So, the green is where your planned mining is?

Dave said: For this month, yes. That looks like the picture out of Mining Matters.

Donna said: Yes it is.

Dave said: Not all of the mining but the green is the picture from the Mining Matters, so that's the mining that we're going to do this month, in March.

Raelene said: Okay, so does it say on there somewhere that this is the forecast for the next month?

Dave said: Yes, it was prepared on 2 March.

Raelene said: If I was anybody I would just think, "Oh that's alright, they're just going to go over there".

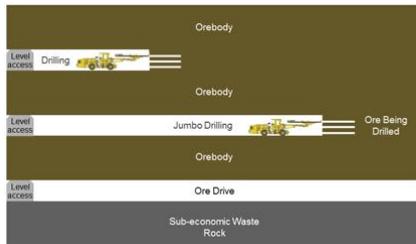
Donna said: That's an easy fix Raelene, we can put a date on it to show what month it relates to.

Tim said: Oceana will change the graphic by adding which month the mine development plan relates to.

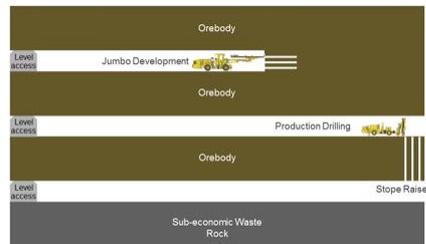
*Post-meeting answer: Oceana advise they will change the text so it says something like "the information prepared on the [day] of [month], and is valid for the month of [month]".*

# Modified Avoca Technique

1 Drill drive access



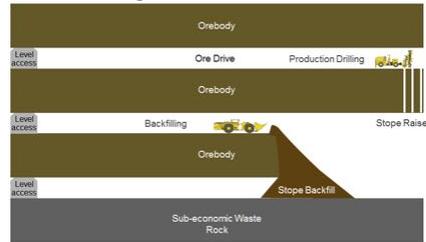
2 Production drilling



3 Production blasting & bogging

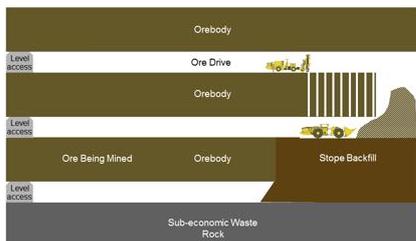


4 Backfilling

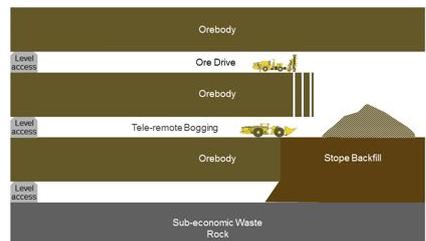


# Modified Avoca Technique

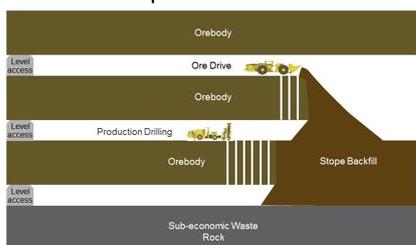
5 Blasting & bogging over backfill



6 Progressive blasting/bogging



7 Multi-level production/backfill



Dave said: This slide is following up on one of the questions at the last meeting around how the mining takes place. The Avoca mining technique is a technique that I've used in Australia as well and it's used for narrow vein ore bodies. We mine down in the waste rock, get to the vein, you come across and then you mine along it. It's a bottom-up mining technique. You put a drive in first with a machine called a jumbo, which is basically a big cab with two pneumatic drills on the front of it. We advance these tunnels typically 5m x 5m for 3m to 4m advancement at a time, unless for other reasons we do shorter rounds in poor ground or vibration. We put this tunnel in by jumbo drilling and we stagger them up. If you go to the second picture that shows the two tunnels put in and then we do production drilling, so we drill holes down between the two tunnels. Those holes are typically 64mm. We use different diameters based on the size of the stope, ground conditions and vibration consents but typically somewhere around 64mm, or they can be 50mm or 76mm. We put the tunnels in, drill holes between the two tunnels then at step 3 we blast that section of rock by putting explosives in the piles we've put between them and we bog that dirt out under remote loader. The drill keeps drilling out in front of it and then we go and backfill that rock, we put it in bucket for bucket over the end with the loader again to fill it back up. At step 5 you can see this one is backfilled. Once we've got one done we start the one above and then you end up in a retreating front. That one's been filled, the next one up has

been blasted and you bog that out and then step 6 is you just do it again. It's basically over and over and over again, a pretty repetitive process. Once you get up high enough you can take it over multiple levels, so you can have one stope down on this level, one stope up on this level and basically alternate the process. We put the tunnel in, drill out a section of it, blast that section down, take the ore out and put the waste back in again. That's essentially Avoca mining.

Lee said: How much (height in) material is between those tunnels?

Dave said: Typically in Project Martha everything is 18m from floor to floor. In Rex they're slightly smaller due to vibration. To keep the vibration down we lower those down, the holes are shorter and I have to use less explosive each time. Typically they are 18m in Martha.

Tim said: One of the reasons this question came up in the previous meeting was about what guarantees there are that there won't be further subsidence after you've been and left. One of the questions made at that meeting was, "Do you drive the bogger over the top of the backfill so you're semi-compacting it as you go?"

Dave said: Yes, that's right. We basically work bottom up. I can't make a bigger hole until I've filled this. So, we have to put the waste back in to create the floor.

## Vibration

### Vibration

#### Project Martha

##### Six-months to date performance

- Development blasting (330 events)
  - Highest average 0.86 mm/s (consent limit 2 mm/s)
  - 95 percentile 1.77 mm/s (consent limit 5 mm/s)
  - Monitors have been triggered 93 times to date in relation to Martha blasts (max vibration: 2.1mm/s)
- Safety/Maintenance blasting (9 events)
  - No monitors triggered to date (consent limit 1 mm/s)
- No Production blasting to date



Russell said: For Project Martha, in the last six months we've done 330 blast events. For those of you that know, we blast multiple times in one event, so there will be several headings being fired at exactly the same time. That's the only way we can work efficiently if we're only going to blast three times in a day.

Tim said: So, you're talking about two separate things. This is for development, for doing those tunnels that Dave's just finished talking to us about, not about the stoping?

Russell said: Yes. The development blasting is two ways. One is for the tunnels driving around to access the ore bodies and development blasting is also the tunnels within those ore bodies. So, it's those 5m x 5m x 3m to 4m. The data we process over the period, we accumulate it and we have to look at the various compliance monitors. Each of them gets an average for every blast event, we get a designated recording and we have to document the average for that period. For the period we have a consent limit of 2mm/second for the average. The highest for this one is the pensioner flats, or monitored beside that at one of the residents just this side of the pensioner flats but that's where it gets its name, at 0.86mm/second. The other ones are less but we are getting steady results from most of the monitors now, particularly in this area down here. The 95 percentile, so Dave was talking about not being allowed to go over 5, that's kind of right. The 95 percentile was designed to mean that the regulations say effectively that one in 20 blasts can be an anomalous blast and go higher. But if we do that we have to explain and for those of you who know about the AEP, that pays

progressively as we generate more vibration and we really don't want to go over 5 because it gets really expensive for us. There's a compliance penalty for us as well as a payment penalty.

Raelene said: Can I just get clear on that? So that means that 95% of the time ...

Russell said: The blasts have to stay below 5mm/second.

Raelene said: If it goes over 5 ...?

Russell said: Then we have to explain what we've done, or what's gone wrong, to the district council. The council holds us liable. All of this vibration data also goes automatically to the council. They are on the same link as us and get the data at exactly the same time.

Raelene said: So, 95% of the time you have to stay under the 5 but sometimes you go over the 5?

Russell said: Yes, it's an allowance for what's called an erroneous event. We design our blasts for everything we know. We know from our history how our blast events will behave. But at certain times you'll go through a certain rock type and it will throw something out that's unexpected. It's the nature of mining.

Raelene said: So, then you call it an anomaly? So, how often has it happened that you've gone over 5?

Russell said: We had three at the start of last year and we haven't had any since, Dave? From memory we've never had an anomalous development blast over 5.

Dave said: No, not a development blast. All production.

Russell said: Those were production ones that I mentioned. Three at the start of last year and nothing since.

Raelene said: So you just have to write a note to say, "Whoops we went over and sorry about that"?

Russell said: It's a little bit more than that Raelene. The council understand blasting now as well. We have to do a lot of investigating. We hate writing letters to people to explain that something went wrong. If one of our monitors goes over 5mm/second that means everybody around it is getting \$300-ish for AEP payments.

Raelene said: \$300? That should cover a few bits of damage.

Russell said: No, you're wrong and I get quite frustrated about this. (Our policy is) if we break it, we fix it. AEP is about peoples' amenity.

Raelene said: Do you? I've not found that to be true. No, isn't it if you can prove that you guys did it?

Tim said: Let's do one thing at a time. (Russell, are you saying) AEP is just because it happened and you know that it's going to interfere with peoples' enjoyment of peace and quiet?

Russell said: Yes.

Tim said: Then there is the Oceana Gold policy that if they break it they fix it; and Raelene you are saying that hasn't been your experience? Tell me some more about that.

Raelene said: No it hasn't. Ask Donna, she knows all about it.

Tim said: So, there's a conversation you've been having with Oceana?

Raelene said: No, it's in the past.

Donna said: We do. What happens under the consent conditions we have now is that if someone rings and says they feel that we've damaged their house from vibration and blasting, in the first instance a certified building practitioner and myself will visit the property, they will do a report on the perceived damage and if they feel that it is down to mining then we have to pay to fix it.

Raelene said: Okay, if you feel that it's down to mining?

Donna said: If the report comes back and says it isn't damage through vibration we now have to pay a third party independent structural engineer to come and do another report. If their findings are the same as ours, that it's not down to mining but whatever it may be, lack of maintenance, water getting in or something and the property owner doesn't agree with the findings of both reports then it can go to council for mediation.

Tim said: So, the council is the ultimate decider?

Donna said: Yes.

Tim said: So, the cost of the independent second opinion is Oceana's cost?

Donna said: Yes, most definitely.

Tim said: And it's somebody who's definitely going to report independently on what caused it?

Donna said: Yes, it is. Obviously someone has to pay, so we have to pay them, but they are independent.

Glenis said: How often has it ever been found that a house has been damaged by mining?

Donna said: The Gladstone Road drill-rig incident was a prime example of that and we ended up having to buy six properties because of it.

Glenis said: So, one time?

Donna said: There have been smaller instances where someone said their mirror's fallen down and broken during a blast and we've replaced it, things like that. A lot of the time, if it's a minor thing, we'll fix it anyway.

Jane said: Last time you said you had a monitor down by Subway and one up here somewhere?

Russell said: There is one over beside the school, on our flats by the school, and that's called Central School. The one in Waihi CBD is behind the SPCA.

Jane said: Is it on solid ground or just poked into the dirt?

Russell said: There's a specific requirement on how they're mounted. We refer back to international standards on how it's done. A 20cm to 25cm cube of concrete has to be put into the ground flush and then the geophone is bolted to that. The idea is that it could replicate a pile in the ground but you don't want a block of concrete too large because then it won't accelerate with the land. But, if you have it too small then you can get external vibrations as well, so you want the land vibration. International science says, and it's not totally specific, a cube of concrete around 20cm to 25cm.

Jane said: Last time you said with a house being on flat concrete you won't pick up the vibration the same as you would if it was on wooden piles.

Russell said: What that means is houses all behave differently.

Jane said: Yes, I was just wondering if your monitor was on concrete or on the dirt?

Russell said: It's on a concrete block in the dirt. You could picture it like a short (concrete) pile.

Liz said: Can I just explain? I was in Roycroft Street where there was mining underneath my house. I was always informed by Donna and the mining company that if I felt a vibration or blasting which was out of the ordinary I had to contact them. So, I did and I remember on one occasion it was huge but Donna explained there was some mishap with the actual things going on, too much at once rather than individually.

Donna said: An anomaly.

Liz said: Anyway, apart from that I was very concerned as I had an outside concrete chimney and I noticed the cracking seemed to be getting worse. I contacted Oceana, they sent around an engineer and the engineer had a look at it and said it's got to be taken out. So, the mining company paid for the chimney to be removed, I had a window put in and they paid for it all. So, I know a lot of people have got concerns about it but there are definite positive things too and they do work alongside you.

Russell said: Was that attributed to vibration Liz, or did we just do it anyway?

Liz said: Well it must have been something that the mining company ...

Donna said: It was dangerous wasn't it.

Liz said: Yes it was and the engineer said it had to come down.

Donna said: It was a bit of both. It was unproven whether it was us or just the mortar in the bricks cracking, as that happens over time. Because it was a safety issue, and because Liz was on her own, we decided that we couldn't sleep at night if we left it there. So, we decided to take it down for her.

Glenis said: I've heard some numbers, you've talked about a 5mm/second and I've heard 3mm/second. What's the actual consent condition number?

Russell said: If we start at the 95 percentile, we're talking about how 95% of the blasts have to stay below 5mm/second. That is the same for both production and development blasting.

Glenis said: So, that's a consent limited number?

Russell said: Yes. When we talk about 5 as our ceiling we really don't want to go above that for numerous reasons. The 2 and 3 are generally generated because the production blasts, the ones that we do during the lunchtime when everybody is awake and doing things, are accepted as larger blasts but they don't happen as frequently as development. So, that was the consent arrangement. They were permitted to be slightly higher average than the 2mm/second for development. So, 2, 3 and 5 are all in the consents but 2 and 3 are for the averages, 5 is the same for both for the 95 percentile. Averages were brought in with Correnso because there was a general approach that we needed to keep everything reasonably even and reasonably down and it was one of our aims to do that.

Dave said: What might help you explain it is that the averages were brought in for Correnso because when we do the production blasts they are generally bigger. There was a concern from a vibration consultant that we could mine one section, one very close area of the mine, continually for three or four months and then move and then come back. The averages that Russell talked about are related to the specific monitors. What that means is we can't do lots of large blasts in one area of town, go away and then come back. By bringing the averaging in, it lowers the effect because we've got to lower the whole thing down a little bit and move the mining sequence around.

Tim said: I just want to follow that with a question I had for you, Russell. You have said that if you go over 5mm/second, the consequence is that you pay AEP and you have to write a letter to council. If you breach the 95 percentile rule and broke 5mm/second too many times, first of all you get, "Please explain" from the council but then do you get some sort of consequence because you haven't complied with environmental consents?

Russell said: If we go over 5 we have the, "Please explain" but we are still below the 95 percentile because you're allowed 5%. If we go above that 95 percentile of 5mm/second, so if we have too many, then the council says, "What are you going to do to bring it down?" and they start putting caps on top of the condition.

Tim said: They could issue an abatement notice or some other modification?

Russell said: Yes.

Tim said: So, council are watching too?

Russell said: Yes, they have access to the same data, they're on the same system.

Raelene said: The story is that we were two houses away when you were under Union and the cut-off line went down Clarke Street. We were two houses out of the zone and we were feeling the blasting quite a bit and so we got a monitor in and it was a council monitor and there were readings on the council monitor that read more than what your vibration machine measured.

Russell said: I monitored you place didn't I?

Raelene said: You might have.

Russell said: I was there as well. I had two monitors in one place along your side fence.

Raelene said: Right and the council one was there too wasn't it?

Russell said: Yes I think they might have had it there too.

Raelene said: It was reading higher vibrations than your other monitors were reading.

Russell said: At times.

Raelene said: Yes, at times, that's right. And yet nothing happened about it because (it seems) you don't have to abide by the council monitor, you only have to abide by your own monitors. So, we were an anomaly.

Russell said: We have to choose where we put monitors. The council expert and our expert get together and decide where they have to be. Peoples' houses will be closer to blasting than the monitors. So, in those circumstances, the algorithm, the computations that it does ...

Raelene said: No, wait a minute. If our house is closer to the blasting than the monitors then we would have been in the zone wouldn't we?

Donna said: I think you're referring to the Golden Link Project area. They originally had that running down the Morgan Park side of Clarke Street and you were in George Street so you were out of the Golden Link Project area. But then when we went to the Correnso consenting the council said, "We're not going to allow you to have that big area" and they shrunk it down.

Russell said: Raelene's talking about Trio, which is even before Golden Link.

Raelene said: Yes, Trio.

Russell said: I'm not too sure where the boundaries were I'm sorry Raelene but I know there were two monitors either side of you, further down Clarke Street, and your property was in the middle but at times with the blasting yours was actually closer than the vibration monitors. But the programme that has been built up for working out what (vibration) properties would get actually determined relatively well your property.

For example, for Rex West down here, if we're blasting in this area here, for properties that are closer to the blasting the computerised system would say that they would get higher blasts. You work both ways with vibration. When you're got a monitor, if you're closer to the blast than the monitor, the (algorithms in the) system will say you've got more. If you're further away it will say you've got less. So, it's about getting a monitor in a relative location and then working out where your property is in relation to that. Particularly in Correnso we get that a lot because you'll be blasting in one place and the monitor further away will give a reading and by the time it calculates back you get higher assessments.

Tim said: So, Raelene's concern is that the recognised monitors came up with a number and the monitors that were on Raelene's property showed higher than that. Raelene, your understanding was you were told that those weren't allowed to be taken into consideration?

Raelene said: Basically, yes.

Russell said: They weren't compliance monitors as far as 5 or below but when you look at the calculations of what your house should have got from the programme and what we were getting from the trials that were on your property, they were not dissimilar. They were close to being the same.

Tim said: So, that is a recognised monitor plus algorithm calculations, compared to monitors on Raelene's place were about the same in terms of the numbers?

Russell said: Yes.

Tim said: Sound right to you Raelene?

Raelene said: No, it sounds gobbledegook to me.

Tim said: What was the outcome of all of that?

Raelene said: My husband got cancer. No, I can't put it down to that because I can't prove it.

Tim said: Nothing effectively changed, is that what you're saying?

Raelene said: Yes.

Glenis said: Does vibration not get affected by what's underneath it? My house might be further away and you might say, "You're out of zone" but in actual fact I'm getting more vibration from a blast than a house that's right over top of where you're blasting.

Russell said: I don't work out the zones Glenis. As far as I'm concerned I'll put a monitor wherever it's of concern to people and I will not go to any property and assume the vibration will be what the system thinks.

Raelene said: Are the zones worked out in the resource consent process and who are they worked out by? Who gets the AEP payments?

Russell said: The AEP payments are based on the computations and once people are signed up they get put into the computer programme and if it assesses that people get the necessary number of blasts that are unfortunately above a certain level then there are payments made.

Raelene said: But who decides that?

Tim said: Who draws the line on the map?

Russell said: It's initially drawn up by the consent but at the same time I can push beyond that if needed. If we find that vibrations are within or beyond an area we can add people as we figure it out.

Glenis said: So, people can come to you and say they believe that they're getting vibration even though they're not in that zone?

Russell said: Yes, we have to investigate that for sure.

Donna said: I take it that by "zone" you mean the mining permit area?

Glenis said: No, I was just taking up on what this lady said about how it was considered she was out of zone so she didn't qualify for AEP.

Russell said: I don't recognise any zones for vibration monitoring.

Tim said: That's good information Russell. So, if there is a concern somewhere that there's an affected area then you'll explore and investigate that?

Russell said: Yes. I can be charitable as well, I've done monitoring for traffic vibration for people who are complaining about Transit. We've got monitors so we can determine things.

Brian Gentil said: It's about the monitors, the zoning and your mining and movements. Where you've got your monitors, how often do they get moved? I know you can do personal ones for people who may contact you, but with where you're mining now and where the monitors are, are they in the best positions? Or are they three or five years old? For example, Central School compared to the pensioner flats – you've got a lot more vibration towards the pensioner flats with what you're doing at the moment. Could you have another one, or leave the Central School one but have a look at where you're mining? Or do you do that with your monitors?

Russell said: The monitors have been determined by our vibration expert and the council vibration expert. The two of them got together and said, "This is the mining model and these are the best locations to put the vibration monitors".

Brian said: Is that current? That's not three years ago before you started mining under the rugby grounds?

Russell said: No, it was done at the whole proposal but we were always going to be mining under the rugby grounds. It was designed for this period. The difficulty in finding vibration monitor locations is the level of modification that's been done in this town. When you start poking a metal prod into the ground around here it's really, really difficult to find natural ground in this town. John knows from personal experience, I put

monitors in four different places on his property to find a place that went into decent clay. We used traffic at the time as the trigger mechanism so it is actually useful to have traffic at times.

Tim said: That's right, John? So, it is hard to find virgin ground?

John Course said: Yes.

Russell said: We were trying to use footpaths, the area between the footpath and peoples' boundaries, but if you poke a stake in nearly everywhere around there you'll hit gravel about 100mm to 150mm down. There's been a lot of development in this town.

John said: Clay, pumice, rocks and rubble.

Russell said: But we were able to find some pretty good representative locations. I'm relatively pleased with the way they're behaving. With the traffic I can actually tell which direction trucks are going at times in the middle of the night because they'll set off East first, North, South and West as they go through town.

Tim said: So, in answer to Brian's question, yes, the locations are current in relation to the mining activity?

Russell said: Yes.

Raelene said: Can you compare the 5mm blast to an earthquake? How do they measure earthquakes?

Russell said: Earthquakes are measured on the Richter scale. It was interesting that after the earthquake the other week, Central went 4 but they're very different and it's interesting because some of our monitors didn't even get triggered by the earthquake. The reason for that is that they are designed for blast vibration. Earthquakes are a very slow vibration. They are generally less than 5Hz for those of you who understand wave-lengths. Our (blast) vibrations are generally 20 and above. So, when our monitors are calibrated they are calibrated for typical (blast) vibration ranges. I was told by an expert in Australia that below 4 they are not accurate and may not even detect. So, basically you've got a block with a sensor inside it. Think of it like a marble on a saucer. If you shake it, like a blast, the marble will fly off. But if you do it like an earthquake and move it slowly you can keep the marble on the plate. So, it's not accurate for those sorts of frequencies.

Tim said: So, Raelene you're looking for a reference point about what 5mm/second might feel like?

Raelene said: Yes, exactly. Thanks.

Russell said: I guess keep an eye on our website. The vibration monitor results come through. I don't know whether we could replicate a vibration of 5. We're getting roughly 1 to 1.5 for logging trucks, all the time.

Tim said: Right beside the road, or further away?

Russell said: No, John's one is probably more sensitive but even the further away ones are getting 1. Normally I have to move the monitors 10m to 15m away from the road just to stop filling up the monitors because if I put them too close to the road they will be full of data within a couple of hours.

Charlie Beach said: What are your monitors checked against to show that they are recording accurately? I ask the question because electrical instruments have to be checked regularly, such as an ammeter or a multi meter. I take Raelene's point here, the only way I see to check those two monitors is if they were side by side. I see that you could get a difference being apart, and I understand that. Maybe if you sat them side by side and one was out of calibration, how do you calibrate them? What do you check them against?

Russell said: We don't have our monitors out of calibration. They all get sent to Australia annually.

Charlie said: So, you have an annual calibration check on all of them? And are they tested and tagged?

Russell said: Yes, they're labelled, both the data logger and the geophone.

Charlie said: That's good to know, comparing apples with apples.

Russell said: Going on, we did talk about safety maintenance blasting last time. Within this consent we asked for an opportunity for basically very, very small blasts. These are designed to straighten up tunnels and take off protrusions. After you've blasted you may need to come back and shave a corner, you might

have one big rock that didn't break up enough to be able to remove it so you might want to pop that or shave a little bit off the floor. They are permitted to happen at any time but they have a consent limit of only 1mm/second and we haven't had any monitors triggered for that yet. We don't have them often, nine in six months.

(Regarding the comment on the PowerPoint slide above) Sorry this is incorrect we have now had two production blasts to date.

Donna said: Yes in the open pit.

Russell said: The other one that some people may feel as well is we have had some slightly larger development blasts and that's to do with risers, ventilation shafts, between drives. They are still classed as development and have to comply with development but they have a slightly larger charge-weight to be able to get 18m between drives. One of them was 4mm/second.

Tim said: So, generally your numbers are quite a lot below the requirements. You've got 0.86 as your average when the limit is 2mm and the 95 percentile is 1.77 when the maximum is 5mm/second?

Russell said: The one thing we've only really been challenged with over the years has been the 95 percentile for production and that's generally been if we've been doing very few blasts. If you just get one wrong that will throw the figures out.

Brian said: Where were the production blasts?

Dave said: If you go back to the first slide. That red line, vertically, that's where it was under there.

Brian said: Can you give a reference point?

Russell said: Between the pumphouse and our admin office.

Brian said: How far down was that? Is it on the South Wall?

Dave said: Yes, it is on the South Wall. I don't know what the RL (depth) is but if you want to know we can get you a number.

*Post-meeting answer: Current mining ranges from 185m below surface to 410m below surface.*

Brian said: So, you've got two tunnels going in, right? Is it the top or the bottom you're blasting?

Dave said: Yes, for that particular one we had three stacked up and we took out the bottom two and filled that and the one we're going to fire tomorrow will be the top one of those.

Brian said: What time is that going off?

Donna said: Between 1pm and 2pm.

Russell said: We have done a couple of production blasts and three larger rise blasts.

Donna said: For those of you who don't realise, MUG stands for Martha Underground.

Tim said: Is the production blasting from Martha going to start soon?

Russell said: We may do the occasional stope if they come through but full-time stoping won't be until ...

Dave said: The ones we're going to finish off, we've got a couple of blasts to go in the red line that you just saw. In August this year, on that other slide, is when the first one in Rex is due to come out. Just to the right of the Central School where you see those there, that's the Edward mining area. Probably late Q2 we'll start stoping up there but there's not a lot of it so it will be pretty sporadic.

Tim said: So, a bit before and a bit after the next meeting there could be some more noticeable vibration because you're production blasting. Is that right?

Russell said: Yes that would be right. We probably will have had two months of production blasting.

Tim said: So, good for people to know that that's just part of the plan, it's not that something's going wrong or whatever you're just moving into the next phase of your mining process?

Dave said: Yes.

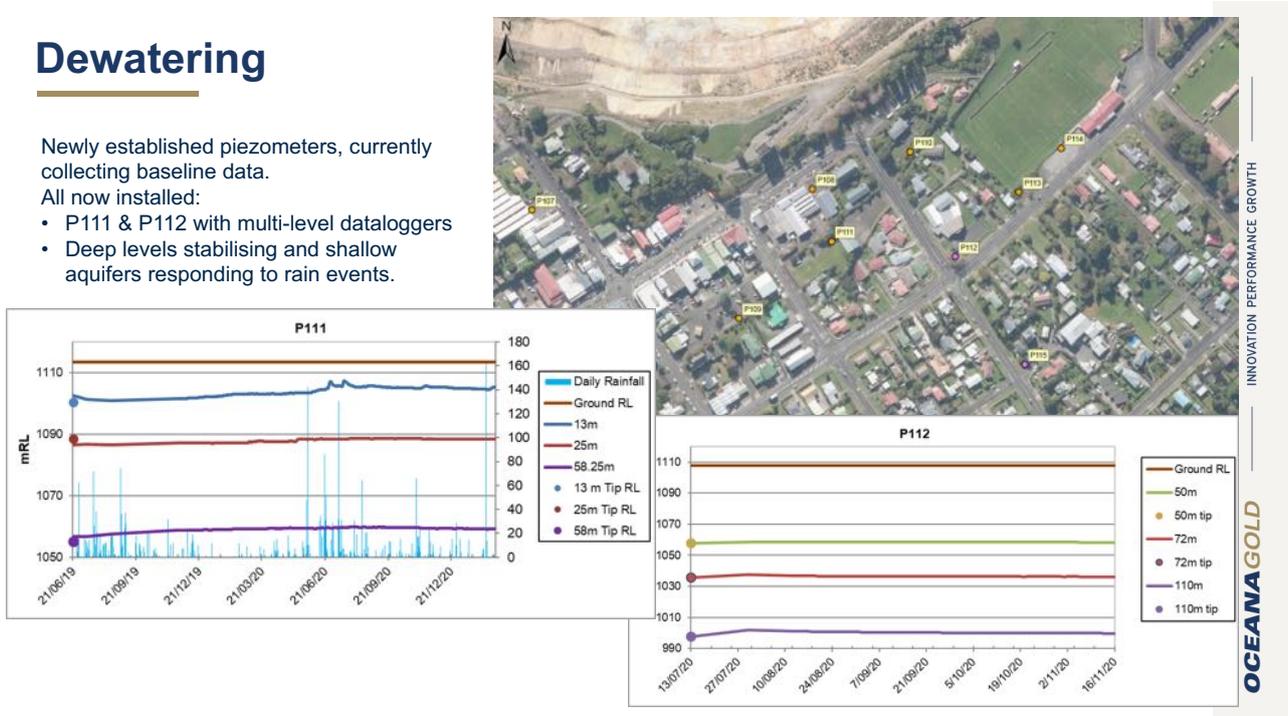
## Dewatering

### Dewatering

Newly established piezometers, currently collecting baseline data.

All now installed:

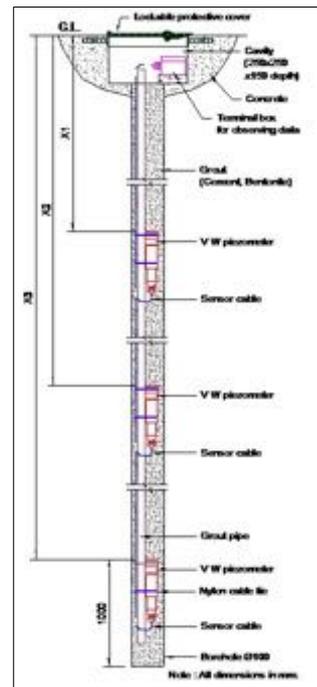
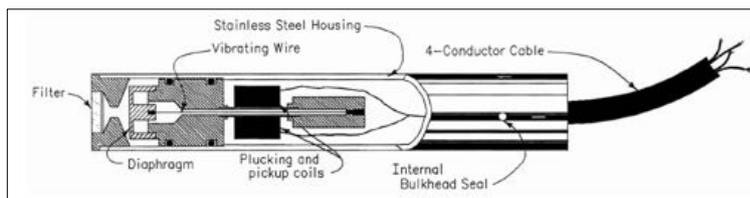
- P111 & P112 with multi-level dataloggers
- Deep levels stabilising and shallow aquifers responding to rain events.



Russell said: We'll talk about dewatering and piezometers. Of course we have to have a dry area where we're working so we pump water from the underground. One of the things we want to make sure of is that while we might want to draw water from the underground we don't want to influence the upper zones of the soils. When you drill down through the earth you go through a certain phase of top-soils, sub-soils, and clays so that's the alluvial layers on top which is generally loose type material. Then you go through the volcanic, or ash, layers and then you work through them into the andesitic layers where we're mining. One of the critical things that was raised in the consents is we are allowed to be down the bottom but we can't drain these upper areas. What we do is we have multi-level piezometers which measure water pressure through drill-holes in various areas. These go down normally about 100m to 150m. We have various ones around the area, particularly focused towards the Rex area because that's still relatively virgin ground. The Martha pit has already been dewatered, in the old days, but we still have some monitors in that area as well. It's early days for these instruments at the moment but the one thing we do compare them with is rainfall. (Looking at the graph above – see the top line) this is ground level, if you picture this as ground level and this is the depth below of the different piezometer tips we have. These ones here fluctuate when it rains so that's always a good sign for us because that means that we're not dragging them down by what we're doing lower down. They're behaving as naturally as possible and that's important for us. The two ones we've got these multi-level piezometers in are still on their data collection phase at the moment, so there's not a lot to show.

Donna said: This was a question from the last meeting about what a piezometer is.

# Piezometer



Russell said: This is the hole that's drilled down, at various levels down the hole we have these instruments and then they are grouted between them. These are measuring water pressures at different levels down through the hole and then you have an electronic data logger at the top that records at whatever frequency you want it to. We normally read it at daily intervals, which gives us a nice picture over a year of how the water levels progress. This is a blown-up version of one of these instruments. They're called a vibrating wire because every time you take a reading it sends a little electronic pulse and there's a little wire inside the cell and at a certain frequency it causes a vibration and that's influenced by pressure on a diaphragm. As water pressure goes up and down that causes this wire to tension or de-tension slightly and then it sends a signal back and the monitor at the top can read the difference in the frequency of the signal coming back. It's a little bit like a depth-sounder but it's taking a measurement from the bottom.

Donna said: And that's what you would have seen being drilled at the Baptist Church. Remember when the drill-rig was there a while ago? That's what that was doing, putting in piezometers.

Russell said: And the little wooden post with the metal box on it at the church is the data log.

Raelene said: Was there also one further down Gilmour Street?

Russell said: Yes. Some of them are just stem-pipe piezometers, so they're just a pipe that's grouted into the ground for one level but the more intense ones have got these multi-level ones.

Brian said: Is the information that gets to the top sent to you or do you have to manually go and read it?

Russell said: At the moment we are manually going to get it every month.

Brian said: So, that gives you a month's reading or just that day's reading?

Russell said: A month's worth of daily readings. It's a data logger so it's logging all the time.

Raelene said: What would cause you to be alarmed about something going on? What's a bad sign?

Russell said: If one of the levels suddenly went down indicating we were dewatering an area that we shouldn't have been.

Raelene said: How quickly could that happen? If you're looking at the readings once a month could something dangerous happen within that period? A week or something like that?

Russell said: I'll say it's possible but highly unlikely. If you dewater it does take time for the ground to pressurise and start to settle. Just because you take water away it doesn't mean the soil settles immediately.

When we had a problem we saw that and it was about two or three months before people started to say, "There's something funny going on" and we were already saying, "There's something wrong".

Jane said: I've heard that there's problems going on down in Kenny Street with the dewatering and it's being kept a close eye on. Is that right?

Russell said: Which part of Kenny Street?

Jane said: I don't know, I just heard that it was down Kenny Street and the land or whatever had dropped by a couple of hundred and it was being kept a close eye on. I was just wondering if that's correct?

Donna and Russell said: Not that I've heard.

Tim said: Who was it Jane? Somebody who might know? Was it a mining person or somebody else?

Jane said: No, it was a resident that was talking to some guy that was there to check it out.

Russell said: I'm just wondering whether it might have been Grant down at the rugby club because he's down there doing measuring. I haven't seen any data to indicate there's any issues anywhere that would speed up on our monitoring.

Tim said: Jane, was the resident talking to one of Oceana's monitoring people?

Jane said: Yes, to some person that was there to check it out. They said they were keeping a close eye on it.

Tim said: Russell, if you get to the bottom of that let us know and we'll put it in the minutes.

*Post-meeting answer: Oceana Gold was not able to locate whoever spoke to Jane's neighbour. No further clarification is available.*

Russell said: When staff are monitoring I encourage them, if somebody comes along and says, "What are you doing?" that as far as I'm concerned information is power and if people know what we're doing they can at least understand and question us properly.

Tim said: When you put the piezometers in do you seal the hole up, so that it's not a problem?

Russell said: Yes and there's actually a grout pipe here, called a tremie pipe. They pump the grout in from the bottom and they keep on pumping it until it comes out the top.

## Points from last meeting

### Movement and Slips – North Wall

- Monitoring of all pit walls is standard procedure and continues today. The Company uses lasers and robotic monitoring to measure movements of the pit walls.
- We knew two years prior to the major slip of 2016 that the wall was failing.
- Movements in the north wall were noted on the 14th May 2014.
- Investigations and remediation of this area (unloading and dewatering) were underway since about the third quarter of 2014, and the pit was closed in April 2015 following a series of small failures that undercut the haul road.
- Failure of a major portion of the north wall on 25th April 2016. The time of failure was predicted almost to the hour of the event.
- This meant we were able to notify the community and put measures in place to ensure their safety.
- These movements have now ceased with the unloading of the top of the slip during 2017/2018.

Donna said: This question about movement of the North Wall was your question Jane.

Jane said: Yes.

## Movement and Slips – North Wall



15

INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Dave said: (See the photograph of the pit that is part of the vibration slide [P 10 above]). The North Wall looks like that now. Before the slip we had this haul road that came down here and that's the haul road they used in the pit before they did it. The way we monitor that is by a couple of things. You might see this (PowerPoint slide 15 above) when you go around the pit rim walkway. Essentially it's a radar that scans the whole North Wall a couple of times a day. It looks for changes in the wall to see whether it's moving. We've had this thing since that wall slip. The other thing we do to monitor the pit rim and these walls is you might see those boxes, like little huts, around the pit rim. Inside them is a theodolite, a survey instrument, there are prisms glued into these walls and it goes around and takes a survey measurement of those and then compares the new measurement to the last measurement. Both of those instruments are hooked up to emails and SMS. If it gets two measurements outside a certain range and a certain time period it triggers a whole heap of alerts and sends alarms to everybody.

We use robotics and lasers, essentially the radar and the survey instructions. We knew two years prior to that slip that it was failing. The North Wall is basically a big wedge of rock. In those wedges it's like a joint and if you put water in the joint it becomes slippery and stuff moves. We knew two years before it failed that it was moving and that was because of the radar and that stuff. We first noted them in 2014 when they started becoming big. We basically unloaded and dewatered it. So, you've got a big wedge that is heavy and now it's got two planes that are wet. We went in and drilled holes into the planes to let the water come out so they weren't so slippery. They went down and took some of the rock off the top so it wasn't so heavy.

We did that to try and keep the haul road open. We closed the pit in 2015 because the big block that was moving had lots of other wedges and stuff in it and one of those small wedges fell out and compromised the haul road. It wasn't safe for the miners to go up that wall anymore so we stopped mining the pit then.

Pretty much a year later the whole thing fell in. The question from the last meeting was around how we knew the time limit around that. The answer is it was probably a long time. What we saw over time from the monitor and the survey data was acceleration. It looked at the whole block and could see that it was moving faster and faster and faster and faster but to what point it actually lets go over gravity is a bit of a guess. But, we knew a long time before it happened that it was going to happen. We could have a bit of a guess at roughly when it was going to happen but it was really at what point the acceleration became too much. Once it failed, what's there now is as big as probably the big wedge is going to get. We do still see small movements on that radar, particularly around this area. There are just little bits but they're rocks this size. You'll see this coming down every now and again. The radar is still there on the North Wall, watching the North Wall. There are still three survey prisms around watching the South Wall.

Jane said: So, you still wouldn't know how much dirt was going to go?

Dave said: You can take a guess. There are two things – this one tells you what part of the wall is moving. The geologists map structures in the rock so they can say there's a fault-line there and here. We had an idea of the size of the wedge that was going to come down, we knew it was roughly going to be in that area but it's probably accuracy of tens of metres.

Tim said: One of the things that was an entry on that slide was that the prediction of when it was going to go was accurate to about an hour. So, some weeks before, you were able to tell that it was going to go?

Dave said: Yes. The geotech who was here working in the pit at the time made a pretty estimated guess that it was going to go at that time. That was just based on seeing the accelerated movement through those two things.

Tim said: What kind of acceleration?

Dave said: The triggers, at the moment, we talk of in millimetres per hour. So, if it's more than 3mm or 4mm/hour and it continues to do that then it starts setting off peoples' alarms. It's not fast.

Raelene said: So, this meant that you were able to notify the community and put measures in place to ensure their safety. How did that work? If you knew the slip was coming did you let the community know that there could be a slip coming?

Dave said: I don't know. The pit wasn't my thing at the time.

Donna said: That's something we can find out because we keep all those records.

*Post-meeting answer: Oceana said we put information about the North Wall in the update that used to be in the Waihi Leader and also on Facebook and Gold FM.*

Murray Elliott said: When are they going to fix the North Wall?

Dave said: The Project Martha consent had two aspects, the underground and phase 4 of the pit. Phase 4 of the pit basically said we would tidy up the North Wall. Under the proposed Project Quattro the pit gets bigger so it kind of depends on what happens with that project. If Quattro doesn't go ahead then phase 4 is when that will get fixed. You might have seen some work go on a little while ago and that was part of that remediation work and unloading the North Wall.

## Geotechnical Investigation Holes

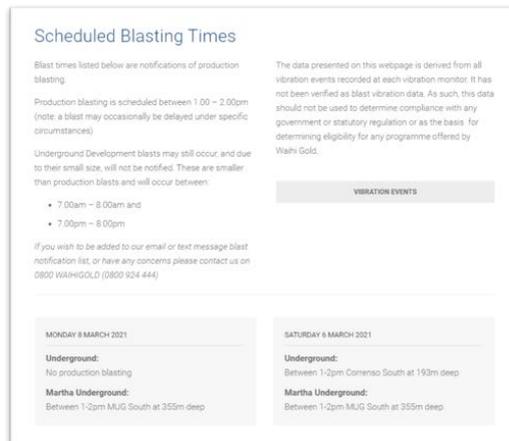


Donna said: Some of you may have seen some of these survey pegs around this area, there was one just outside on the bank here. I just thought I'd add this because I had a couple of residents ask what they were. They are geotech holes that are to do with the road realignment for the proposed project. So, it's just some studies they're doing. They are using a hand auger and they will bore down 5m to look at what the ground's like to make sure that it's okay to do the road realignment, to check the ground type. They're doing that in 17 locations on the side of the road, so if you see people out there that's what they're doing.

## Notification of Blasts

The latest blast times and locations are available daily on our website: [www.waihigold.co.nz](http://www.waihigold.co.nz)

Please contact us on 0800 924 444 if you would like to receive txt or email notifications.



Donna said: Notification of blasts was another question we had from the last meeting. We put all our blast times on our website every day. Go to our Waihi Gold website, not the Oceana Gold corporate website. A lot of people make that mistake and you won't find anything about us there really, well you will but it won't be specific to what you're looking for. Go to [www.waihigold.co.nz](http://www.waihigold.co.nz) and this is what you'll find, click on the scheduled blast times and then you'll see the time and location of the blast and how deep it will be.

Heather said: Can we do that every day?

Donna said: You can do that if you want to know. The other way you can be notified of a blast is I can send you a text in the morning as soon as I find out from the mining department where the blast's going to be. I send out a group text but I've only got two people at the moment for Project Martha. So, if that's what you want to do, if you want to be added to the text list or you want to be phoned up or an email sent to you, you can ring me on the 0800 number which you should all have, it's on Mining Matters anyway, and I'll add you to that list, or you can just go on the website and have a look. If you're up-town and you don't want to ring up you can pop into the project office and let Jeannine know and she'll let me know and we'll sort it out.

Glenis said: Yes please.

Donna said: Glenis, I'll just need your contact details, I think I've probably got them anyway. Now I'm going to ask Kyle to give us an overview of what we're up to with the projects.

## Project Quattro

# Project Quattro



Visit our Project Information Office at 86 Seddon St



Log on to our website [www.waihigold.co.nz](http://www.waihigold.co.nz)



Call us on our free call Community Engagement Line

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INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Kyle Welten said: In July last year we told everyone about Project Quattro which is our new proposed project. We told you what we wanted to do which was basically open the Martha pit back up, do a smaller pit on the outskirts of town and increase our tailings storage. We're still figuring out how we're going to achieve that. In July we told you we were aiming to lodge a consent towards the end of 2020. Late November we came out and said we were still finalising the technical studies, and that's still the case now. I encourage you, if you haven't already, to visit our project information office. All the information that we have on hand about the proposal is in there or you can ring our 0800 number and contact Donna and we can provide as much information as we can, but we're still figuring out how we're going to achieve Project Quattro.

Tim said: When's that likely to go to the application for consent stage?

Kyle said: That is all dependent on those technical studies. There is a desire from Oceana Gold to lodge it this year. Beyond that I couldn't give a definite date.

Tim said: And there will be a notification period and it will all come out and people will know?

Kyle said: Yes, we will make sure everyone's informed. We wouldn't lodge it without making sure the community was aware.

*Post-meeting answer: Kyle said that we will make sure everyone's informed. We wouldn't lodge it without making sure the community was aware. Ocean Gold is investigating the consenting pathways for each of our proposed projects and their different elements. We are committed to sharing details of the projects with all affected and interested stakeholders and, regardless of the outcome of these investigations, we will provide them opportunities to give feedback that will contribute to the final project design.*

Glenis said: What are the technical studies that you're waiting for based on?

Kyle said: I don't know the entire answer to that question. If you have specific questions you're interested in finding out about then I'm more than happy to sit with you. Project Quattro is a large inter-related project.

Glenis said: So, kind of like having your ducks in a row?

Kyle said: Exactly, so we told you, "This is what we want to do. Work with us while we find out how we do that."

## Wharekirauponga

### Wharekirauponga

- We have undertaken an extensive exploration programme in the region, and in February 2019 announced an initial resource deposit in Wharekirauponga.
- Although we have now tested enough rock to be confident that the gold discovered at the site could support a mine, feasibility studies for accessing this resource at Wharekirauponga are ongoing.
- Any potential mining operation we may undertake at Wharekirauponga in the future would **only be underground** – not at the surface level.



INNOVATION PERFORMANCE GROWTH

OCEANA GOLD

Kyle said: Similarly with Wharekirauponga, which is about 10km as the bird flies out towards Coromandel/ Whangamata way, we told you in 2019 that there's a resource there. We're now saying that we've tested enough gold to say that that resource would support a mine. But same story, we're investigating how we're going to potentially access that ore body and then, should we pursue a mine, how we would get the ore back to our existing processing plant and tailing storage facilities. We will keep you informed.

Raelene said: Does that investigation mean you're finding out if you can fly in or if you're going to make a road?

Kyle said: Yes, exactly. There are two parts. There is how we actually access the ore body and then how we transport the ore back. Currently we're drilling on farmland on the outskirts of Waihi, investigating the potential portal, so a tunnel out there. Then we're also investigating how we get the ore back. So, is it a tunnel back to the Waihi processing plant from there? Is it overland transport using trucks? That's all yet to be decided or still being investigated.

Murray said: How long would the potential mining be up there? Five years, 10 years?

Kyle said: I wouldn't know.

Phil Salmond said: "How long would it last?" is what you're asking Murray?

Murray said: Yes and how much gold is up there?

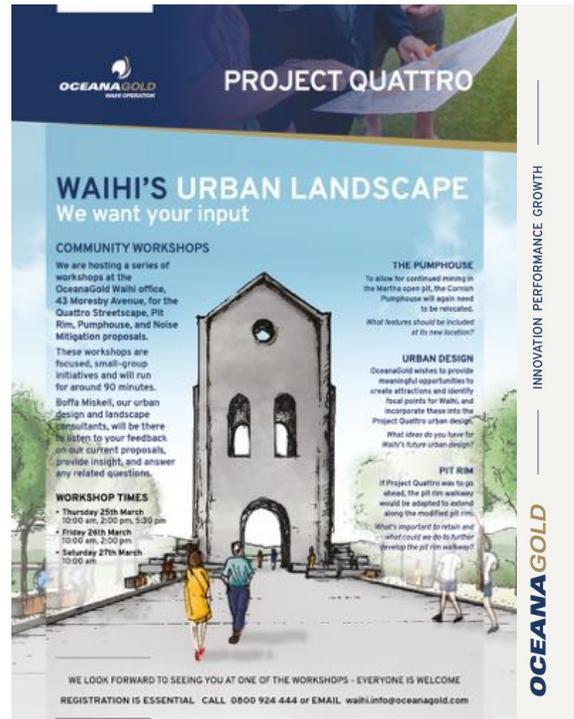
Kyle said: I think they're finding a lot of gold but that's all part of those studies. What does the mine look like? How long would it take us to mine it?

Russell said: We're still doing exploration and because there's relatively few sites we can drill from it's hard to get good data. We've only got a limited number of drill sites, we want to define the ore body and it's very tricky if we haven't got the angles that we want to work on. They cross over the ore bodies

## Urban Landscape Workshops

### Urban Landscape Workshops

- OceanaGold will shortly be conducting public workshops on our proposed Project Quattro landscape designs; focusing on the pumphouse, pit rim, streetscape, and noise mitigation proposals.
- You can expect to see the flyer in the Hauraki Coromandel Post and other channels in the lead up to the events.
- If you would like to participate in one of the sessions, please let us know.



Kyle said: Last one from me. We have had some feedback regarding Project Quattro and the urban design elements of the project including the relocation of the pumphouse which is necessitated by the expansion of the Martha pit. So we invite you all, if you're interested, to attend some workshops that we're hosting at the end of the month. Josh will hand you out a pamphlet with all the information at the end of this so that you can get in contact with Donna and book yourself in. We'll have Boffa Miskall, who are our urban design and landscape consultants, at those workshops to work with you so we can incorporate your feedback into the final design of the urban design and landscape elements of Quattro.

Heather said: Where are you going to shift it to?

Kyle said: The current proposal is to move the pumphouse to where the pensioner flats are at the upper end of Seddon Street and then we are proposing to construct the pensioner flats elsewhere at the Tenix yard behind the church.

Donna said: The old Thames Valley Power Board yard.

Kyle said: We would construct those prior to demolition of the existing flats and moving the pumphouse.

Jane said: I think the pumphouse should stay where it is. It's a historic building and it's already been moved once. Why don't you just leave it alone?

Kyle said: I would encourage you to come along to the workshops and we can run through that.

Tim said: So, that's a conversation that could be had at the workshops so let Josh or Donna know.

Glenis said: That's feedback that I had about it, concern that it's not going to be as visual because it's such an iconic part of the Waihi landscape. If it gets moved down lower, which it will, because at the moment it's up higher and it's a visual landmark for this town. Once it goes to the flats it's actually not going to be ...

Brian said: That's only a proposed site isn't it? That's not a given, that's where you guys would like to have it.

Kyle said: Yes and that's the purpose of these workshops, if you've got an alternate site.

Robert said: Where it is it's a focal point. You can see it coming in from Tauranga, way before you even get to the beach turn-off you can see the pumphouse and if you drop it down there ...

Heather said: Do they need to shift it?

Kyle said: Yes, they are currently proposing to shift it to accommodate for the Martha pit.

Brian said: And the Kauri?

Kyle said: The Judge's Kauri as well.

Jane said: It's not just Judge's Kauri, there's heaps of Kauri trees around here.

Kyle said: This building will have to go also.

Glenis said: With the Judge's Kauri wasn't there a court ruling that it couldn't be moved and that's why it's called the Judges' Kauri? The pit was never to go past that tree. That tree was to stay there.

Kyle said: I can't answer that question.

Jane said: I mean where do you stop? You know, if you're going to move historic buildings and things to get more gold, where are you going to stop? Where do you draw the line?

Tim said: And that's a valid question too Jane. So, part of that is the landscape workshop and part of that is that when it gets to lodging the application then there'll be room for the public to make submissions on that. That might be something that you choose to say then, that the mine has grown enough and when is enough is enough? There will be a hearings committee or commissioners that make a decision based on hearing from everybody, from yourselves and anybody else from the community who makes a submission and from the mining company and from the council etc and they'll make a decision there. So, there is still lots of process to go.

Brian said: On that same slide (about the Project Quattro process and timeline), the third one along where you have, "Lodgement of application, council publicly notify district plan change and resource consent application", the district plan change and resource consent application are two separate things. Can you explain? Are you waiting for a district plan change before you do your resource consent application?

Kyle said: I cannot but I can find out the answers for you. I'd be doing it an injustice if I tried to explain it. But it's my understanding that to accommodate the expansion of the Martha pit there also needs to be a district plan change. I can find out more detail.

*Post-meeting answer: The expansion of surface mining outside of the Martha Mineral Zone (MMZ) is a prohibited activity in the Hauraki District Plan. As such, a change is required to the Hauraki District Plan to increase the size of the MMZ to include all the land parcels that will be necessary to support the expanded pit. We should have more detail on this within a couple of weeks from now (from 3 May 2021).*

Russell said: Part of the question about moving the pumphouse is to remember it's already been moved once as has the Grand Junction Refinery building. The question may be where is the best place for it to be?

Jane said: Right where it is.

Heather said: You have to move it do you?

Russell said: The design of the pit at the moment requires it to be moved.

Tim said: This is an interesting conversation to watch unfold because when we were running lots of meetings about moving the pumphouse in the first place I don't think anybody believed it was going to look as good as it does in its present site, and it does look good where it is. So, who knows what the possibilities are?

## Next meeting

Tim said: The next meeting of the Martha consent group is in six months' time. We've heard what you've had to say about the notification of the meetings and there will be some conversation around how we do that next time out.

Murray said: One way of sharing information is there used to be a slot on Gold FM. Is it because Kit's gone that you don't have an information slot anymore?

Kyle said: You'll notice that Kit isn't here, there's been a bit of a change-around in our team and we've got Josh on-board to help us with comms.

Tim said: Brian, was it a Q&A with you and Kit?

Brian said: Way back before Kit. We had Kelvin and Sefton all the way through, it stopped about four months before this all started. It dropped away rather rapidly. We've got an interview with Matt Hine on 1 April. So, that's hopefully going to be an introduction of him and hopefully we can get something back on because we've had a lot of feedback. There are people who don't like to come to these meetings, they don't like to sign in, don't go to the offices, but they will come to us and we always sit on the fence, we're neither for nor against on the radio so it's another option for people to ask questions, air views and hopefully get more information out there from both sides.

Donna said: Matt Hine is our new General Manager. He was hoping to come today but he couldn't make it. Apologies from Matt.

Tim said: So, maybe there's an opening, following on from Matt, for there to be some consideration of some Q&A or something that could kick back in if it was going to be useful for people.

Phil said: Tim, I think it's probably good to say that Kit is actually still with us. He's in a corporate communications role. It's great to have Josh with our team and Kit obviously is playing that new role. Kim is sick today, she gives her apologies for not being able to be here.

Raelene said: I've just got one more question. The pumphouse, what happens if it topples?

Donna said: You should come along to the urban design workshop Raelene.

Jane said: It was being worked on not long ago, to stabilise bits that were falling off. That's what the scaffold was doing around it.

Tim said: So, good point to raise at that workshop.

Mike said: I'd just like to express a vote of thanks to Oceana Gold for putting the evening on, very informative and I'd like to come again. I've learnt a lot from it and I guess the other attendees have as well so well done and we'd like to see more of them. Thank you very much.

The meeting finished at 7.18pm.

**Next meeting: Thursday 2 September 2021 at 5.30pm  
(Combined CEPA/SUPA and Martha meeting)**

<b>Attendance register:</b>	
Lee Anderson	Charlie Beach
Gordon Haszard	Heather Ross
Michael Masters	Liz Cannell
Robert	Jane Murray
Raelene Beadle	John Course
Helga and Erich Schmidt	Clive Jennings
Anton Douglas	Murray Elliott
David Carrington	Mike Beach
Brian and Glenis Gentil	Donna Fisher
Russell Squire	Phil Salmon
Josh Smith	Kyle Welten
David Townsend	Tim Clarke
Louise Fielden	
<b>Apologies:</b>	
Matt Hine	Kim Calderwood